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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/059,157	01/31/2002	Norio Kubo	32739M070	6520
441	7590	12/15/2003	EXAMINER	
SMITH, GAMBRELL & RUSSELL, LLP 1850 M STREET, N.W., SUITE 800 WASHINGTON, DC 20036			RODEE, CHRISTOPHER D	
			ART UNIT	PAPER NUMBER
			1756	

DATE MAILED: 12/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/059,157

Applicant(s)

KUBO ET AL.

Examiner

Christopher D RoDee

Art Unit

1756

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The amended claims are directed to a toner. Specifically, the claims require a replenishment toner wherein a percentage by volume of toner particles with particle diameters of 5.04 μm or smaller contained in the replenishment toner is in a range from 1.5 to 3.5 times a percentage by volume of such toner particles contained in an initial toner loaded initially in an image forming apparatus. The percentage of toner particles having the diameter of 5.04 μm or smaller is based on the initial toner loaded initially in an image forming apparatus. The instant claims are indefinite because the characteristics of the initial toner are not defined in the instant claims.

In order for the artisan to know the percentage by volume of replenishment toner particles with particle diameters of 5.04 μm or smaller the artisan must know the by volume of initial toner particles with particle diameters of 5.04 μm or smaller. Because the claims do not specify the initial toner characteristics pertinent to the instant claims, the claims are indefinite. The claims include all possible amounts of initial toner particles with particle diameters of 5.04 μm or smaller. Such a claim does not meet the statutory requirement of "particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention".

Applicants traverse this rejection, which was applied to claims 1-3 and is extended to subsequently added claims 4 and 5, because the content of toner particles with the claimed diameter is determined relative to the content of the toner particles with the relevant diameter in

the initial toner. Applicants state that the claim language is broad but not indefinite and that it is well known that a given type of initial toner is supposed to be used with a given copier or printer model. Applicants then give various examples of how the replenishment toner is chosen based on selected amounts of the initial toner in the specified size range.

The instant claims are directed to a replenishment toner. The term "replenishment toner" does not impart any compositional or structural requirements on the toner other than that the replenishment toner contains a specific amount of toner particles in a certain size range based on an initial toner. Applicants have not specified any specific compositional or structural requirements implicit in the term "replenishment toner". The replenishment toner is also present by itself. It is not present in an imaging apparatus or container having both initial and replenishment toners present, or in a kit having both initial and replenishment toners.

As applicants readily recognize and admit the amount of replenishment toner particles with particle diameters of 5.04 μm or smaller is being limited by the amount of initial toner of the same diameters. In their remarks applicants select various amounts of initial toner to define the replenishment toner of the claims. Applicants select 1.0 % by volume of initial toner having sizes in the specified range at the bottom of response page 4 and select 0.7 % by volume of the initial toner at the top of response page 5. Applicants are correct that these loadings of initial toner at the specified sizes are permitted within the scope of the instant claims but so are any other arbitrarily selected amount of initial toner with particle diameters of 5.04 μm or smaller. The artisan can select an initial amount of toner particles of 0.1 % by volume, 5.0 % by volume, or 50 % by volume at the specified sizes. Any size of initial toner at the specified sizes can be chosen. This means that the instant claims permit any amount of replenishment toner at the specified sizes because the replenishment toner is based on the initial toner amount as a multiple thereof. As such, the claims include a toner with any amounts of the particle diameters

of 5.04 μm or smaller. These claim limitations do not particularly point out and distinctly claim the subject matter which the applicant regards as his invention because they include all possible amounts of toner with diameters of 5.04 μm or smaller.

The rejection is proper for claims 1-5.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-6 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Mikuriya *et al.* in US Patent 5,849,453.

Mikuriya discloses a toner used in the formation of a toner image. In the process, a latent image is developed by a step of developing with a developing means a latent image formed on a latent image bearing member; transferring the toner image formed, from the latent image bearing member to a transfer medium through a transfer means to which a bias is applied; cleaning the latent image bearing member from which the toner image has been transferred to the transfer medium, to recover and collect the toner remaining on the latent image bearing member; and feeding the toner recovered and collected, to the developing means for reuse in the developing step. The collected toner replenishes the toner remaining in the toner housing 3 (see col. 14, l. 24 - col. 15, l. 53).

Example 1 shows the characteristics of an unused toner according to the instant invention. This toner has a 13.0 % based on volume of toner particles at 5.04 μm or smaller (col. 17, l. 22 - col. 18, l. 32; Table 1). Toner placed in the imaging device but unused is collected and its size characteristics analyzed. This toner has a 20.1 % based on volume of

particles at 5.04 μm or smaller (col. 18, l. 34 - col. 19, l. 25; Table 2). The collected toner is used to replenish the toner supply of the device (see Figure 1). The percentage by volume of toner particles with particle diameters of 5.04 μm or smaller contained in the replenishment toner is 1.55 times a percentage by volume of such toner particles contained in an initial toner loaded initially in an image forming apparatus. The requirements of claim 1 are therefore met by the reference.

The reference discloses the toner as being effective in both one and two-component developer systems (col. 5, l. 14-15; col. 10, l. 1 *et seq.*).

The reference is applicable to claim 2 for the following reasons. Each toner appears to be substantially homogeneous because each toner is formed by a process where the toner is formed from the same composition without special processing. For example, in Example 7 the toner components are thoroughly mixed, kneaded, cooled, crushed, and classified. The toner of Example 7 has a weight-average particle diameter of 8.04 μm (col. 25, l. 64 - col. 26, l. 63). The weight-average and volume-average particle diameters would be the same for a homogeneous composition. Thus Example 7 has a volume-average particle diameter of 8.04 μm . Examples 8-11 also disclose weight-average and volume-average diameters within the scope of claim 2. Any toner disclosed in Mikuriya meets the requirements of the claimed replenishing toner because the initial toner in the claims is undefined and the artisan can pick, arbitrarily, any condition for the initial toner so that a disclosed toner falls within the claims' scopes for the replenishing toner. See § 112, second paragraph, rejection above. Thus the disclosure of a toner with a volume-average particle diameter within the scope of claim 2 meets the requirements of the claims because the initial toner conditions can be arbitrarily chosen (i.e., there is no guidance in the claims as to the initial toner characteristics).

The reference is also applicable to claim 3 because any disclosed toner in the reference could be considered to have the same size as an initial toner because the claims do not specify the characteristics of the initial toner. Thus, the starting toner of Example 1 meets the requirements of the claimed replenishing toner because the initial toner in the claims is undefined and the artisan can pick, arbitrarily, any condition for the initial toner so that a disclosed toner falls within the claims' scopes.

The reference is also applicable to claims 1-5 giving the reference and claims a second interpretation because the instant claims do not specify the initial developer. Thus, as discussed in the § 112, second paragraph, any size of initial toner at the specified size range can be chosen to determine the scope of the instant claims. This means that the instant claims permit any amount of replenishment toner at the specified sizes because the replenishment toner is based on the indefinite initial toner amount. The toner in Table 2 has 20.1 volume % of particles with sizes of 5.04 μm or less. This developer is a replacement toner for an initial toner having a toner concentration of particles with sizes of 5.04 μm or less of 10.0 volume %. The Examiner has arbitrarily chosen this initial toner volume % for particles with sizes of 5.04 μm or less in the same manner as applicants have in the recent remarks (see paragraphs spanning pages 4 and 5). The Examiner again reminds applicants that the claims do not require the presence of the initial toner only the replacement toner is present in the instant claims. A toner by itself, regardless of its intended use, is required by the claims. The amount of initial toner with sizes of 5.04 μm or less can be arbitrarily chosen as any value and, as such, the volume % of toner with sizes of 5.04 μm or less can be any amount because any value multiplied by values within the range of 1.5 to 3.5 (claim 1) or 2.0 to 2.5 (claim 4) or 1.7 to 3.3 (claim 5) will result in any volume %.

With respect to claims 6 and 8, these claims are the same as originally presented. These claims do specify a restriction of the initial amount (i.e., 0.6 to 1.0 volume %) of the toner having sizes of 5.04 μm or less. The replenishment toner is 1.5 to 3.5 times this value equating to an amount of from 0.9 to 3.5 volume % of toner having sizes of 5.04 μm or less. The volume % of toner having a size of 5.04 μm or less is 2.6 noting the toner of Table 4. This toner also has a volume average particle size of between 8.0 and 10.08 μm noting the volume distribution in Table 4.

Applicants traverse the rejection of these claims because the collected toner and replenishment toner present in the supply hopper 42 corresponds to the replenishment toner in the present invention (response p. 6). Given the assumptions present at the bottom of response page 6 concerning the recover toner amount in the hopper, applicants conclude that the toner in the supply hopper is outside the scope of the instant claims (see calculations on response p. 7).

The Examiner has given careful consideration to these remarks and has reviewed the art in detail. Regrettably, the Examiner cannot agree with applicant's conclusions or interpretation of the reference.

The collected, untransferred toner sent through pipe 49 meets the requirements of a replenishment toner because it is used to augment the initial toner present in the original supply. This collected toner meets the requirements of the claims because it has the size and amount characteristics required of the instant claims.

Giving the claims the second interpretation noted above, any toner composition can meet the requirements of claims 1-5 because the characteristics of the initial toner are not defined. The artisan properly construing the claims can arbitrarily select the volume percent of toner having a size of 5.04 μm or less to any possible value, which permits any disclosed toner having particles in the noted size range to meet the requirements of the replenishment toner.

Because the toners of the reference have particles in the noted size range, it meets the requirements of the claims.

With respect to claims 6 and 8, the toner in Table 4 has 2.6 volume % of toner having a size of 5.04 μm or less. Although this toner may not be used as a replenishment toner in the invention, the manner in which the toner is used does not limit the toner. The toner described in this Table meets each and every material limitation present in the claims (i.e., the size characteristics in the noted diameter range). The claims are thus fully and identically disclosed by the reference.

Claims 1-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sano *et al.* in US Patent 5,863,694.

This rejection was applied for the first time in the last Office action and the remarks presented there are incorporated here. The amendment to claim 1 broadens that claim and those claims dependent. Consequently, any art applicable to the claims previously is applicable to the amended claims because those disclosures (i.e., the toner) must fall within the scope of the broader amended claims. The scope of claims 6-8 is the same as previously presented.

Applicants traverse this rejection because the toner in Sano is an initial toner rather than a replenishment toner. As noted in the interpretation in the last Office action and above with respect to Mikuriya, the claim fully describes the claim with respect to the amount of particles in a size range of 5.04 μm or less. Because each and every material limitation of the claims is met, the reference is fully applicable against the instant claims.

The claims are not directed to a process of using the toner, not to an apparatus, and not to a two-component developer. The claims are directed to a toner defined in the claims by its amount of particles within the specified range. The reference fully discloses a toner having

these characteristics. The rejection is therefore maintained for the reasons given in the last Office action and given here.

Double Patenting

Claims 1-8 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of copending Application No. 10/059130. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the reasons given in the last Office action. Because applicants have not provided any specific reasons for traversal the rejection is maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 571-272-1388. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr
9 December 2003


CHRISTOPHER RODEE
PRIMARY EXAMINER